

FOREST MANAGEMENT UPDATE

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Communicating with Landowners: An Observer's Perspective by **Arlyn W. Perkey**

As the word *observer* in the title implies, I am not routinely paid to provide direct assistance to private non-industrial landowners, either as a public or private employee or consultant. However, during the last 10 years of my career, I have listened to many service foresters and consultants talk about their landowner counseling experiences. I have reached some conclusions that I would like to share with you. My hope is that my observer's perspective may be helpful to those who are on the front lines daily communicating with landowners.



Arlyn Perkey talking with group of forestland managers at the
Coopers Rock Crop Tree Demonstration Area in Morgantown, WV.

My first observation is that foresters who view the communication relationship between themselves and landowners as "*trust me, I know what's best for you and your land,*" are not going to be in good touch with most private non-industrial landowners. The concept that we are professionals who know best is not currently accepted by most clients. At this time, the profession has not achieved that degree of public trust, and frankly, I don't know if we have earned it. Even if we had, we need to be aware that people who care enough about their land to seek professional advice usually want to have options and recommendations clearly explained to them; and they want to retain the right to accept or decline the advice.

FOR SERVICE FORESTERS & CONSULTANTS



If one objective is to obtain income from their timber resource, we need to help landowners see what a timber crop tree looks like and show them why some trees have far greater potential to produce timber products than others. If they have wildlife objectives, we need to show them several different wildlife crop trees, and explain why these individual trees can yield wildlife benefits that others cannot. For landowners interested in a visually attractive forest, we need to explain the positive affect that management practices can have on aesthetic crop trees.

A third observation is that foresters who work on private non-industrial forestland must learn to speak in a language that landowners can understand. We often use terms that are common knowledge to other foresters, but Greek to most landowners. The problem is that many of the techniques we presently use for doing inventory, analysis, prescription, and marking are not easy to explain to landowners. Unfortunately, use of these scientific techniques on the private non-industrial forest creates a dilemma when it comes to explaining them and communicating their benefits to our clients.

I believe, for this landownership category, the ability to effectively exchange information with the owner is vital. It deserves special consideration when deciding which inventory, analysis, prescription, and marking techniques should be used. To illustrate my point, following are two ways of describing stand density and a thinning prescription for an oak stand discussed in a management plan:

Conventional Prescription:

This 20-acre oak stand is 95% stocked on the Central Hardwoods Stocking Chart. It has 100 sq. ft. of basal area and 250 trees per acre that are larger than 2" DBH, ie. a mean stand diameter of 8.6". The prescription is a free thinning to reduce stocking to the B-level, which is 63 sq. ft. of basal area. Since there is a potential for having a moderate amount of logging damage, mark the stand to 70 sq. ft.

Crop Tree Management Prescription:

This 20-acre oak-hickory stand has 23 potentially valuable timber crop trees per acre. Eighteen of these trees are oaks that also have value as wildlife crop trees since they produce acorns. As an added wildlife benefit, there are an additional 3 hickory trees per acre that could be released to produce a different type of food for wildlife. In consideration of the stated aesthetic objective for this stand, a total of no more than 20 crop trees should be fully released per acre. To accomplish the combined timber, wildlife, and aesthetic objectives as documented, the prescription is to provide a full crown touching release to 17 of the 23 timber and wildlife crop trees and the 3 hickories for a total of 20 trees per acre.

Helping Landowners Watch Crop Trees Grow **by** **Arlyn W. Perkey**

One of my many fond memories of being raised on a farm in Iowa is recalling how farmers talked to each other about their crops. It seemed as though they were constantly discussing either past production on the back forty, or worrying about whether a predicted summer drought could cut yields on the steep knob south of the house. Farmers have well-established units of production they use to compare yields from one field to another, and from one year to another. There's a common language they use to discuss how their crops are doing. If Farmer Jones says he got 100 bushels of corn per acre from the back 40 this year, and 120 bushels per acre last year, Farmer Smith understands very well what he is saying. This ability to communicate with each other about what is happening meets an important social need. Whether the news is good or bad, it is necessary to be able to share it in terms that everyone can understand.

It appears to me that tree farmers need to be able to do the same thing; and on a fairly frequent basis. Waiting 15-20 years between periodic harvests to be able to discuss production is just too long for us humans. We need some way to measure production annually. I believe individual crop trees are something landowners can relate to, and I think watching their annual diameter growth is a valid means of monitoring how the crop trees in one stand are doing compared to those in another. The landowner can also monitor how the trees are doing from year to year. Annual diameter growth rate is a viable unit of measurement for both timber crop trees and mast-producing wildlife crop trees. However, it is not appropriate for wildlife crop trees that provide dens or for aesthetic crop trees.



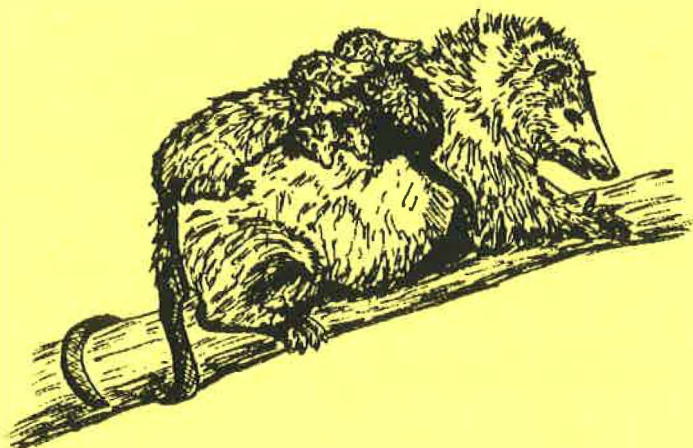
Establishing paint marks at DBH on 10 trees with similar characteristics provides an easy means of measuring crop tree growth on an annual basis.

Once the DBH paint marks are established and the landowner has been shown how to use a diameter tape, he/she can measure the crop trees annually to monitor growth. The yearly results of the remeasurement can serve as a good reason for the forester and landowner to periodically reestablish contact. If growth trends are favorable, it reminds the landowner of the benefits of having applied sound management practices. If growth trends are unfavorable, it raises a point of discussion that needs consideration. Is growth slowing down due to crowding, aging, drought, etc.? This discussion can provide important additional opportunities to review the landowner's objectives and monitor how well they are being met.

If you are interested in trying this method of watching crop trees grow, a tally sheet is available upon request.



Showing landowners how to monitor crop tree growth stimulates interest and promotes stewardship through sound forest management.



Production's up this year.
Oh, my aching back!!

Because trees are phototropic and grow in response to varying amounts of light, those that are located adjacent to streams, lakes, and ponds can develop some interesting shapes. These unusual trees contribute to the aesthetic attractiveness of riparian areas and are frequently endearing to landowners.

Another consideration of special interest to landowners is the density of understory in the wooded area adjacent to streams. In general, landowners prefer a park-like environment near the water's edge so they can easily walk along without having to fight their way through thick brush. However, this preference for dense stands adjacent to water does not mean that aesthetic crop trees cannot be managed to meet the landowner's objectives. When a relatively low number of crop trees per acre are given a crown touching release, understory development is minimal.

Timber Crop Tree Considerations

Generally, timber crop trees can be grown along streams if the soil drains adequately. Riparian zones in rough topography are excellent timber crop tree growing sites. This is often due to the presence of deep, well-drained or moderately well-drained soils with good water-holding capacities. Under these topographic and edaphic conditions, the riparian zone may produce some very high quality timber crop trees provided the species selected for management are adapted to the water conditions.

Main factors to consider in managing trees in riparian zones are flood frequency, flood duration, and high or low water tables. Some excellent timber crop tree species that grow in these areas are only marginally adapted to the growing conditions which frequently exist there. For example, black cherry may be found in riparian zones, but if drainage conditions are poor, or if periodic flooding occurs, its potential to produce benefits as a timber crop tree are severely restricted. In fact, there is a good chance such trees could be lost due to mortality. Therefore, the forester must not only consider the general timber value of a species, but whether or not it can survive when grown under conditions found in the riparian zone.

In the Appalachian and Central Hardwood Forest Regions, high quality timber crop trees are not usually found in riparian zones where recurrent flooding occurs. Many of the species best adapted to these conditions are often of low timber value. However, some very productive growing conditions can be found on certain sites if flooding is not too long or very frequent, and is restricted only to the dormant season. Frequently, these locations are either on rises of the flood plain, or on terraces above it. These sites are usually the best places to look for good timber crop tree opportunities.

Wildlife Crop Tree Considerations

The key to managing for wildlife in the riparian zone is identifying which habitat element the area is expected to fulfill. Is it food, cover, or perhaps a combination of both? This depends upon the wildlife species the landowner wishes to favor. It is important to release crop tree species that will provide food, shelter and/or nesting cover to satisfy the habitat requirements of the wildlife desired.

If shade is important to keep water temperatures low for fish habitat, then a dense stand in the area adjacent to the stream will need to be maintained. For example, in most 40- to 60-year-old Eastern hardwood stands, no more than 20 crop trees per acre should be released. However, if water temperature is not a consideration, there is more flexibility in the number of crop trees that may be released. Applying a full crown-touching release to more than 25 crop trees per acre will admit sufficient light to encourage patches of dense understory development in most Eastern hardwood forests. Of course, in some areas high deer populations may inhibit such regeneration.



If nutrient accumulation is an objective, hardwoods like this white oak are more effective at filtering than most conifers are.

she should be advised that hardwoods along a stream course are more effective filters than conifers. This "filtering" process will remove as much as 89 percent of the nutrients before they have a chance to enter into waterways.

In species-specific studies, basswood, yellow poplar, dogwood, and red cedar concentrate large amounts of calcium, phosphorous, and potassium in their foliage; while beech, red spruce, the pines, and hemlock are low in their uptake of these elements. Red and white oak, red maple, and quaking aspen do extremely well in nitrogen uptake, but only to a point. Once their requirements are met, their growth and absorption will level off. Additionally, red maple, white ash, basswood, yellow poplar, and quaking aspen respond well if the nitrogen levels increase.

Aquatic Crop Tree Considerations

There are special considerations foresters need to be aware of in regard to nutrient uptake of various tree species and its effect on water quality. Since trees are effective nutrient filters, they provide a viable means of mitigating the impact that some agricultural practices have on water quality.

Trees require various chemical elements to live and grow. These include the gaseous elements hydrogen, oxygen, and carbon; the macronutrients calcium, potassium, magnesium, nickel, phosphorous, and sulfur; and the micronutrients boron, copper, iron, manganese, molybdenum, and zinc. The elements may come directly from rock weathering, in precipitation, in the fixation of nitrogen from the atmosphere, from decomposition of organic matter, or by being washed or leached in from agricultural practices.

Trees will absorb as many nutrients as they can and accumulate them in their biomass; therefore, foresters need to know which potential crop trees are the best nutrient accumulators. For instance, nutrient uptake is most rapid in young trees and declines with increasing age. Generally, deciduous trees have greater nutrient demands than conifers. For example, oaks require more nutrients, especially potassium and nitrogen, than spruce and pine. Therefore, if water quality is important to a landowner, he/

Included with the following lists are categories indicating the ability of individual tree species to produce timber, wildlife, aesthetic, and aquatic benefits. Categories are subjective and may change as more information becomes available.

Very Flood Tolerant Species

Species	Timber	Wildlife	Aesthetic	Aquatic
ash, green Carolina	•	•		•
aspen, bigtooth	•	•		
baldcypress	•		•	
black spruce	•		•	
black willow	•		•	
eastern cottonwood	•			
planertree (water elm)				
tupelo, swamp	•	•	•	
water	•	•	•	

Flood Tolerant Species

Species	Timber	Wildlife	Aesthetic	Aquatic
American basswood	•	•		•
Atlantic white cedar	•			
balsam fir	•	•		
blackgum	•	•	•	
elm, American*	•	•	•	
winged	•		•	
hackberry	•	•	•	
maple, boxelder				
red	•	•	•	•
silver	•	•	•	
oak, bur	•	•		
Nuttall	•	•		
overcup	•	•		
swamp white	•	•		
water	•	•		
willow	•	•		
persimmon	•	•		
sweetgum	•		•	
sycamore	•		•	

* Not recommended due to susceptibility to Dutch Elm Disease.

Flood Intolerant Species

Species	Timber	Wildlife	Aesthetic	Aquatic
beech	•	•		
birch, gray			•	
paper	•		•	
black cherry	•	•		
black locust	•		•	
black walnut	•	•		
buckeye, yellow	•			
butternut	•	•	•	
Christmas holly		•	•	
eastern redcedar	•	•	•	•
elm, slippery	•			
flowering dogwood		•	•	•
hazelnut		•		
hickory, mockernut	•	•		
pignut	•	•		
sand	•	•		
shagbark	•	•		
shellbark	•	•		
swamp	•	•		
hophornbeam (<i>Ostrya</i> sp.)		•		
oak, black	•	•		
blackjack	•	•		
chinkapin	•	•		
cherrybark	•	•		
chestnut	•	•		
northern red	•	•		•
post	•	•		
shingle	•	•		
swamp chestnut	•	•		
white	•	•		•
pawpaw	•	•		
pine, shortleaf	•		•	
Virginia	•		•	
redbud			•	
sassafras	•	•	•	
sourwood			•	
yellow poplar	•		•	•

The landowner is so intrigued by the portable data recorder that he helps Bernie by measuring dbh's on the plots. Three hours later they have covered the entire woodlot and head for the house. Bernie hops into his van which serves as his Mobile Forestry Office (MFO). He plugs the portable data recorder into a laptop PC which is powered by (you guessed it) the cigarette lighter. The plot data are transferred in a couple of minutes, and computations are finished in another minute or two. A quick look at the summary tables, and Bernie verifies that everything looks reasonable. He then starts on the management plan using the word processor program to modify standard paragraphs. Summary tables that he just finished are read into the plan with the push of a key or two. Meanwhile, the landowner has gone to fix a cup of coffee. By the time the coffee is ready, Bernie is too. He has prepared a first cut of the management plan in about 20 minutes and printed it on the portable printer in his MFO. Bernie, being the bright, zealous forester that he is, has the landowner sold on the forest management plan in 5 minutes flat! He grabs his trusty paint gun and heads into the woods to mark crop trees for release. Crop trees on this woodlot include primarily those for wildlife and aesthetics, with a few for timber. Data on crop trees and cut trees are entered into the portable data recorder. Back at the MFO, it takes about 20 minutes to work up the sale package and print it for the landowner. And so, after a single day, Bernie (who you can see is one heck of a fast forester) has met with the landowner, cruised the woodlot, prepared a management plan, marked crop trees for release, and prepared the sale package. (Oh yes, Bernie also prints out the names and addresses of loggers for the landowner.)

Does this sound too good to be true? Well, THE FUTURE IS NOW! Everything that Bernie used "20 years in the future" is available right now! And what about the price....would you believe



Bernie's MFO costs about \$8000 (not including the van, of course). And the price is coming down every day. That's not a bad investment, considering the increased output and better service to clients. In the ensuing issues of Forest Management Update, we will be featuring the COMPUTER CORNER to bring readers the latest in computers and forestry computer programs. We won't be trying to sell computers or programs, but we hope the COMPUTER CORNER will encourage foresters to take a step into the world of computers.

WOW! We'd better stand back when you plug this one into the computer, Bernie.



Northeastern Area's Silvicultural Field Team



We are happy to announce that the Northeastern Area of State & Private Forestry is once again fully staffed in the area of silvicultural expertise. With the addition of Neil I. Lamson in the Durham, NH, field office and Craig T. Locey's appointment to replace retiree Rod Jacobs in St. Paul, MN, silvicultural assistance is now available from each of the three field locations, as well as the headquarters office in Radnor, PA.

Please help us welcome Neil and Craig as they join Arlyn Perkey, Morgantown Field Office, and Lloyd Casey, Radnor, in providing silvicultural coverage for the Northeastern Area. Neil spent several years as a Research Forester with the Northeastern Forest Experiment Station in Parsons, WV, before transferring to Durham. He worked with Clay Smith in development of the crown touching release technique utilized by the Crop Tree Management concept. Craig came to NA from the Wisconsin Department of Natural Resources where he spent several years working on a habitat classification system which evaluates site capability and biological options.

NA's Silvicultural Field Team. Left to right: Arlyn Perkey, Neil Lamson, and Craig Locey.

Tree Shelter Survey

There has been a great deal of interest in using TUBEX tree shelters to protect natural and planted seedlings from browsing and to stimulate height growth. Preliminary results look very promising; so as a follow-up to Dan Morrow's article, *Tree Shelters: Silvicultural Tool of the Future for Hardwood Regeneration in the Northeast?*, which appeared in Issue 9 of the **Update**, we thought now might be a good time to ask our readers to share whatever experiences they have had in using this product.

Therefore, if you have used tree shelters, please fill out and return the enclosed Tree Shelter Survey. We are interested in failures as well as successes and your general impressions. The results will be summarized in the next issue of **Forest Management Update**. We think this will be a good way to let readers know what they can and cannot expect from this new technology. Thanks for your cooperation.

Crop Tree Management Video now Available

A two-part video program has been developed to assist the practicing forester to communicate the benefits of the Crop Tree Management concept to private non-industrial landowners.

The first part, entitled Crop Tree Management - A Guide For Landowners, introduces the concept in an easy-to-understand presentation which guides the landowner through the various management steps. It may be used one-on-one in the landowner's home or in the forester's office; or it can be used at landowner workshops conducted by foresters. It is divided into three parts: the basic program (24 minutes); a review (2 minutes); and a quiz with subsequent answers (8 minutes). Total viewing time is about 34 minutes.

The second part, Crop Tree Management - A Guide For Foresters, is designed to provide additional background and technical information for the forester to aid in implementing the system. It is also 34 minutes in length.

The video is available for \$12 per copy plus shipping. Please call TPC Communications toll free at 1-800-331-3735 (Commercial No.: 412/741-4000) or write to the following address:

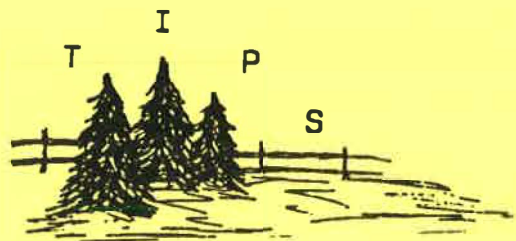
*TPC Communications
79 N. Industrial Park
Production Plaza
Sewickley, PA 15143
Attention: Mari*

When ordering, please pay by check or money order (purchase orders can be accommodated, if necessary, by special arrangement through TPC). Shipping charges can be handled by paying C.O.D. to UPS upon delivery, or the charges may be paid up front. Contact Mari at TPC to determine the correct shipping charge for your area.

Are We Reaching You??

Please excuse our delay in getting this issue of **Forest Management Update** out to you. This is the first issue done on our new desktop publishing equipment. The learning curve for production of camera-ready copy was a little longer than we anticipated, but with the excellent assistance of Nancy Lough who's now helping us with our publishing efforts, we're finally getting up to speed. Hope you like the new look; it's subtle (probably) for you, but significant for us. With the loss of our print shop, our whole publishing process has changed drastically. We think these changes are all positive, however, and will enable us to improve our product and our service to you.

As part of the changeover, we are setting up a new database to handle the **Update** mailing list, in addition to other pertinent information about the people we serve. Please help us by filling out the enclosed Readership Response Form and returning it to us (envelope provided) as soon as you can. It will be a big job; but we want to establish a more efficient way of maintaining this large listing. We would sincerely appreciate it if EVERY reader (regardless of whether you receive issues directly from us or indirectly from other sources) would fill out the form completely (including address & phone) and return it. Although the large readership necessitates our utilizing the same distribution process for mailing of the **Update** as we have in the past, the information you provide will help us in other contacts with you as a client. Thanks for your cooperation.



Tip Number 8:

The Northwest Ohio Windbreak Program: In-Kind-Service Cost Sharing

Looking for a different way to promote forest management on the private non-industrial forest? Consider cost sharing by providing the service rather than the dollars. Many landowners are uncomfortable implementing forest management practices because they are not confident of their ability to do the work themselves, or to find a qualified vendor and properly administer the work.

In northwestern Ohio, the Ohio Division of Forestry has been successfully establishing windbreaks for landowners by providing a site preparation and tree planting service that essentially assures the landowner his investment will result in a successfully established windbreak. The landowner pays the state a flat fee of \$.20/row foot. The Division of Forestry provides the expertise and equipment needed for site preparation, planting, and release of the seedlings. Whatever costs that occur beyond the \$.20/row foot are born by the state.

This program has been in effect for over 10 years, and it has a proven successful track record. Due to popular demand, it has recently been expanded from 9 to 15 counties, and there are more counties that would like to have it. Considering the historical difficulty of getting landowners to establish and maintain windbreaks, the popularity of this practice speaks well for the approach. With the recent expansion of the program, the Division of Forestry has assigned responsibility for coordination of the program to an individual forester. Until recently, the Division of Forestry was able to meet the demand for the service with labor from the State Forest workforce. However, due to expansion of the workload, it has become necessary to contract with vendors for much of the site preparation and planting work.

Note the similarity between this Ohio Windbreak Program and The Geode RC&D Turn-Key Investment Program in southeast Iowa (see Issue 10 of **Forest Management Update**). In both cases, the landowner has a reliable means of accomplishing work that many of them are not familiar with. Perhaps more of the "hard-to-sell to landowner" forest management practices should come in complete packages so the fear of failure and the hassle of implementation can be reduced.

For additional information on the Northwest Ohio Windbreak Program, contact:

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